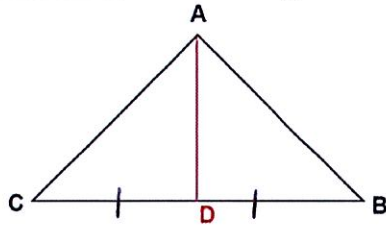


FINAL REVIEW: Topic 5 – CONGRUENCE – Problem Set

Directions: Use the diagram to answer the questions below.



\overline{AD} bisects \overline{CB} ; therefore, $\overline{CD} \cong \overline{BD}$. You are asked to prove $\triangle ADC \cong \triangle ADB$.

a. To prove congruence by SSS, what two additional congruence statements are needed?

1. $\overline{AC} \cong \overline{BA}$
2. $(\overline{AD} \cong \overline{AD} \rightarrow \text{already known!})$

b. To prove congruence by SAS, what two additional congruence statements are needed?

1. $\angle CDA \cong \angle BDA$
2. $(\overline{AD} \cong \overline{AD} \rightarrow \text{already given!})$

c. To prove congruence by ASA, what two additional congruence statements are needed?

1. $\angle CDA \cong \angle BDA$
2. $\angle ACD \cong \angle ABD$

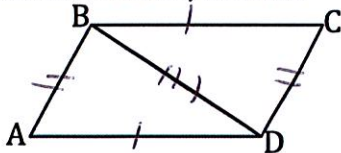
d. To prove congruence by AAS, what two additional congruence statements are needed?

1. $\angle DAC \cong \angle DAB$
2. $\angle ACD \cong \angle ABD$

Directions: Fill in the blanks.

1.

Given: $\overline{AB} \cong \overline{CD}$, $\overline{AD} \cong \overline{CB}$



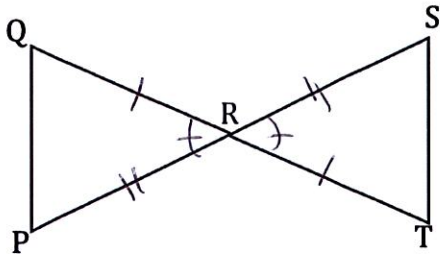
Prove: $\triangle ABD \cong \triangle BCD$

Statements	Reasons
1. $\overline{AB} \cong \overline{CD}$	1. Given
2. $\overline{AD} \cong \overline{CB}$	2. Given
3. $\overline{BD} \cong \overline{BD}$	3. Reflexive Property
4. $\triangle ABD \cong \triangle BCD$	SSS

WLPCS
Geometry

2.

Given: $QR \cong TR$
 $PR \cong SR$



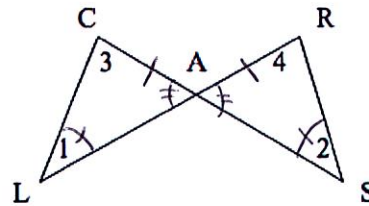
Prove: $\triangle QRP \cong \triangle SRT$

Statements	Reasons
1. $\overline{QR} \cong \overline{TR}$	1. Given
2. $\overline{PR} \cong \overline{SR}$	2. Given
3. $\angle QRP \cong \angle SRT$	3. vertical angles are congruent
4. $\triangle QRP \cong \triangle SRT$	4. SAS

3.

Given: $\overline{AC} \cong \overline{AR}$ and $\angle 1 \cong \angle 2$

Prove: $\angle 3 \cong \angle 4$



Proof:

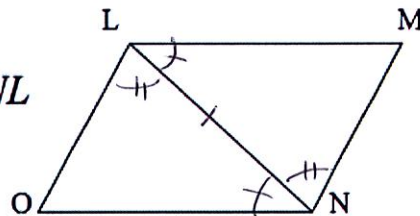
1. $\overline{AC} \cong \overline{AR}$
2. $\angle 1 \cong \angle 2$
3. $\angle CAL \cong \angle RAS$
4. $\triangle LCA \cong \triangle RSA$
5. $\angle 3 \cong \angle 4$

1. Given
2. Given
3. Vertical angles are congruent
4. AAS
5. CPCTC

4.

Given: $\angle NLM \cong \angle LNO$ and $\angle OLN \cong \angle MNL$

Prove: $\angle M \cong \angle O$



Proof:

1. $\angle NLM \cong \angle LNO$
2. $\angle OLN \cong \angle MNL$
3. $\overline{LN} \cong \overline{LN}$
4. $\triangle LMN \cong \triangle NOL$
5. $\angle M \cong \angle O$

1. Given
2. Given
3. Reflexive Property of \cong
4. ASA
5. CPCTC